

NOTES ON SIPHONAPTERA.

BY KARL JORDAN, PH.D., F.R.S.

1. *Siphonaptera* versus *Aphaniptera*.

THE publication of Wagner's *Katalog der palaearktischen Aphanipteren* (1930) raises the question which name should be used, *Siphonaptera* or *Aphaniptera*. The oldest name given to the Order is *Suctoria* Latr. Priority, however, does not apply to names of Orders. Latreille himself replaced *Suctoria* in 1825 by *Siphonaptera*, and one year later Kirby and Spence, being under the mistaken impression that fleas had rudimentary wings, called the Order *Aphaniptera*. I cannot conceive of any argument in favour of replacing *Siphonaptera* by the younger and inappropriate name *Aphaniptera*.

2. *Arctopsylla* Wagn. and other nomina nuda.

There are in Wagner's Catalogue several NEW names which have not been diagnosed. Such names without descriptions not being valid, it is to be hoped that Professor Wagner will soon supply the want.

3. "*Arctopsylla*" *ursi* Roths. 1902.

This North American species has been treated in Wagner's Catalogue as being identical with the European Bear-flea. The two species, however, are very different. There is one peculiarity in the morphology of *ursi* which is worth recording here. Whereas in the ♀ of *ursi* and in both sexes of the allied species the club of the antenna consists of 9 separate segments, in the ♂♂ of *ursi* there are only 8 segments, a very interesting feature.

4. *Leptopsylla* versus *Ctenopsyllus*.

The name *Ctenopsyllus* was first published by Kolenati in 1857 in a footnote to *Ceratopsyllus*, where he says: "... sollte eigentlich *Ctenopsyllus* heissen, von χτεῖς, χτενός der Kamm, weil sie Kämmе, sogenannte Ctenidien am Hinterrande des Pro- oder Metanotums und oft auch an einigen Rückensegmenten tragen. . . ." A name published in this way is as valid from the date of publication as if Kolenati had said: I name the comb-bearing fleas *Ctenopsyllus*. A very large number of names have been published conditionally. Phrases in meaning like the following are quite frequent: "If the differences here mentioned should turn out to be constant, the name *X—us* would be appropriate." "If it is necessary to place these species into a separate genus, I propose *B—ta* for them." A name published with a description or as an alternate name is valid whatever phraseology is employed. Authors, however, should not use the conditional in Nomenclature; give a name straightforwardly, or don't mention a new name; reservations in this connection are really ludicrous. *Ctenopsyllus* having been published in 1857, Kolenati could not validly employ the same word for another genus. This second *Ctenopsyllus*, Kolenati 1863 nec Kolenati 1857, was renamed *Leptopsylla* J. & R. 1911. Wagner is wrong in ignoring *Ctenopsyllus* Kolenati 1857.

5. The Genotype of *Tetrapsyllus* Jord. 1931.

In NOV. ZOOL. xxxvi. p. 135 (1931), we read after the description of *Tetrapsyllus*: "Genotype: *Parapsyllus cocyti* Roths. 1904." This was a slip made when typing the manuscript; it should read *corfidii*, as is abundantly evidenced by the description, the name and the reference to Section E of *Ectoparasites*, i. p. 365, where a diagnosis (but no name) was given. In typing I wrote (unintentionally!) *cocyti* instead of *corfidii*, both names being familiar to me and both beginning with "co." *P. cocyti* does not belong to Section E.

6. *Rhopalopsyllus bohlsi* Wagn. 1901 (= *Rh. bernhardi* J. & R. 1908).

The species was described by Wagner from a single ♀ collected by Dr. Johannes Bohls during his stay in Paraguay. In our paper of 1908 we identified with it a series of specimens likewise from Paraguay which seemed to agree rather closely with Wagner's figure. The type of *bohlsi* is in the Hamburg Museum (ex coll. Poppe) and has very kindly been lent to me for comparison with our material of *Rhopalopsyllus*. We find that the specimen agrees best with the females we placed with *Rh. bernhardi* J. & R. 1908. Therefore, the species we have described and figured in *Ectoparasites*, i. p. 333, no. 9, text-fig. 348 (1923), as *Rh. bohlsi* is *Rh. bohlsi* J. & R. nec Wagner and requires a name: *Rh. rimatus* n. nov., type ♂ from Sapucay, Paraguay.

7. *Rhopalopsyllus gwyni* Fox 1914.

In *Ectoparasites*, i. p. 334 (1923), we said under *Rh. bohlsi*: "*Rhopalopsyllus gwyni* Fox (1914) appears to us to be *Rh. bohlsi*; but we cannot be sure, as we have not yet seen any of the original five specimens of *gwyni*." I have examined the type and a paratype in the U.S. National Museum, and B. J. Collins, of the U.S. Health Service, has lately sent us several examples of the same species. The specimens examined prove to us that *Rh. gwyni* is different from all the *Rhopalopsylli* we have in the collection.

Rh. gwyni ♂ has the VIII. st. much less deeply incised ventrally in the middle line, and the IX. st. is much narrower than in *Rh. rimatus* and *Rh. bohlsi* (cf. above, No. 6). In these characters the ♂ comes nearest to *Rh. platensis* J. & R. 1923, in which, however, the basal abdominal sternite bears more numerous lateral bristles and the bristles of the hindtarsus are much longer, in both sexes. The abdominal bristles are in ♂ and ♀ of *Rh. gwyni* fewer than in *Rh. platensis*, and there is a large interspace between the subdorsal lateral bristles of the hindtibia and the subventral ones. In the ♀ the abdominal sternites IV to VII have no small bristles in front of the row; and there are on the outer surface of tergite VIII from the stigma downwards about 30 or fewer bristles inclusive of small ones (but exclusive of the bristles at the inner side of the apical margin), there being in front of the vertical row a group of 4 or 5 small bristles, recalling *Rh. bohlsi* Wagner (= *bernhardi* J. & R.). In the latter species, however, the bristles on VII. st. of ♀ are much more numerous, the segment bearing 24 or 25 inclusive of some small ones, as against 13 to 17 in *Rh. gwyni* ♀.

8. *Aphropsylla* gen. nov.

Aphropsylla Jord., Verh. Ent. Kongr. Zürich, p. 600, No. 16 (1926) (nom. nud.).

When I described early in 1925 several new genera of fleas, I intended to publish also a diagnosis of *Archaeopsylla*, the description of which formed already

part of the (incomplete) manuscript of a Monograph of the Siphonaptera. I supply here the diagnosis : Near *Archaeopsylla* Dampf 1908. Eye not marginal. Praecoral tuber absent. Metepisternum larger than in *Archaeopsylla*, anteriorly fused with sternum. Antepygial bristles very close to margin, but separated from it. Large flap of ♂-genitalia not dilated ventrad, without fringed appendage; anal tergite not bifurcate. In ♀ VII. st. not incised ventrally in middle line; head of spermatheca subglobular; apical margin of dilated portion of VIII. t. sinuate, angle above sinus acute. Genotype : *A. conversus* J. & R. 1913 (as *Ctenocephalus*).—Here also belongs *Ctenocephalus wollastoni* Roths. 1908.

9. *Trichopsylla* Kolenati 1863.

The genus was described as having no ctenidium on head and thorax. Six species were placed into it, 4 of which Kolenati did not know and were only doubtfully referred to *Trichopsylla*. Of the remaining 2 one, *T. cuspidata* Kolenati = *T. erinacei* Bouché, has a reduced ctenidium on head and prothorax, overlooked by Kolenati, and, moreover, is the type of *Archaeopsylla* Dampf 1908. To select *cuspidata* as genotype of *Trichopsylla* and thereby render *Archaeopsylla* a synonym would be a piece of mere mischief. There remains the species identified by Kolenati with *Pulex penicilliger* Grube 1852. At that time nobody knew what *penicilliger* really was. In fact, Wagner, when re-examining Grube's specimens, found (1898) that they belonged to two species, one a *Ceratophyllus*, to which Wagner restricted the name *penicilliger*, and the other an *Amphipsylla*. The name *penicilliger*, therefore, covered in 1863 three species :

- (1) *penicilliger* Grube ♂, a *Ceratophyllus*, as restricted by Wagner 1898 ;
- (2) *penicilliger* Grube ♀, an *Amphipsylla* ; and
- (3) *penicilliger* Kolenati nec Grube, error of determination, figured by Kolenati.

Kolenati did not know (1) and (2), for both species have a very distinct pronotal comb in contradiction to the diagnosis of *Trichopsylla*. Therefore, species (3), which conforms to the diagnosis and is figured by Kolenati, is the only one common-sense could regard as the genotype : *T. penicilliger* Kolenati nec Grube, err. determ. This species we have identified with *T. homoeus* Roths. 1906. Therefore :

***Trichopsylla* Kolenati**, genotype *T. homoeus* Roths. 1906 (= *penicilliger* Kolenati 1863, nec Grube 1852).

Syn. : *Oncopsylla* Wahlgr. 1903, and *Chaetopsylla* Kohaut 1903.

10. *Ceratophyllus mustelae* Wagner 1898 (ex Schilling indese.) *versus* ***C. mustelae*** Dale 1878.

In the *Katalog d. pal. Aphanipteren*, p. 9 (1930), Wagner employs the name *C. mustelae* Schilling 1857 for the species named *turbidus* by N. C. Rothschild in 1909. Schilling (i.e. in Gurlt's list of parasites) did not give any description ; he merely said on " *Mustela*." As any number of different fleas may accidentally occur on " *Mustela*," the bare statement is quite insufficient for rendering the name valid. Being a *nomen nudum* it cannot be employed as from 1857. In 1898 Wagner adopted the name *mustelae* Schilling and gave a description ; the name, therefore, became valid in 1898. Unfortunately, in 1878 Dale, indepen-

dently of Schilling, had already employed the name for a different species, as proved by a specimen so named in Dale's collection. This *C. mustelae* Dale 1878 is a synonym of *P. penicilliger* Grube 1852 as restricted by Wagner in 1898. Therefore, we have :

- (1) *C. mustelae* (Dale 1878) = *P. penicilliger* Grube 1858, Wagner 1898.
 - (2) *C. mustelae* Wagner (ex Schilling indescr.) 1898 preoccupied by *C. mustelae* Dale 1878 ; and
 - (3) *C. mustelae* Wagner 1898 nee Dale 1878 requiring a name, which was supplied by N. C. Rothschild in 1909 : *C. turbidus* Roths.
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